TO THE EDITOR, *Genitourinary Medicine***Detecting *Chlamydia trachomatis* by direct immunofluorescence using a Cytobrush sampling technique**

Sir,

I feel impelled to comment on the paper by Ciotti *et al* (*Genitourin Med* 1988;64:245-6). They compared a cervical Cytobrush with a swab for taking specimens from the cervix of young women attending a family planning clinic and claimed that the brush was responsible for increasing the detection of *Chlamydia trachomatis*, using the MicroTrak technique, from 12% (9/73) to 27% (24/88). There is no way of knowing whether the specimens collected by the brush that were considered adequate for analysis contained more epithelial cells than specimens collected by the swab because the authors did not record the numbers of cells. Such an increase seems unlikely, however, because use of the brush did not increase the proportion of specimens that contained sufficient endocervical material for analysis (presumably a specified, but unstated, minimum number of cells). Specimens containing more infected cells than usual would have provided the most logical reason for the superior detection of *C trachomatis*. That explanation has to be set aside, however, and the authors put forward the suggestion that the brush disintegrates cells to liberate chlamydial elementary bodies, thus increasing the positivity rate. I should like to offer another explanation, namely that the larger amount of blood constituents in specimens collected by the brush caused non-specific fluorescence, which was confused with specifically fluorescing elementary bodies. This would also provide a welcome explanation for the doubtless feasible but nevertheless disquieting notion that the occurrence of chlamydial infection in women attending a family planning clinic can be as great as in women attending most sexually transmitted disease clinics. It is unfortunate that the authors conducted their study in such a way as to leave one guessing about the value of the Cytobrush.

Yours faithfully,
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TO THE EDITOR, *Genitourinary Medicine***Prevalence of cervical chlamydial infection in antenatal clinic attenders in Lagos, Nigeria**

Sir,

Chlamydia trachomatis is the most prevalent sexually transmitted pathogen in industrialised countries and the greatest cause of pelvic inflammatory disease, which may lead to ectopic pregnancy and tubal infertility.¹ It has recently been implicated as a cofactor in the transmission of human immunodeficiency virus (F Plummer *et al*, AIDS conference 1988, Stockholm, abstract 4554).

The prevalence of genital *C trachomatis* infection in antenatal and parturient women in Africa has been studied little. The table summarises the results of the only reports available, which were from The Gambia, Ghana, Kenya, and Gabon.

We report here the prevalence of cervical infection with *C trachomatis* in pregnant women attending antenatal clinics in Lagos, Nigeria. Of 46 women examined, 15 were attending a private clinic in the Yaba district of Lagos, 10 were attending the general hospital, and 21 were attending the military hospital, at which treatment is free. Patients were selected on a first come first served basis; two attending the private hospital refused treatment. The mean age of the 46 patients was 25 (range 17-40) years.

Chlamydial antigen was detected in cervical swabs using the Chlamydia detection enzyme immunoassay (Pharmacia). Swabs provided by the manufacturer were carefully rolled around the endocervix, removed, and stored at 4°C in transport medium also supplied by the manufacturer. At the end of the clinic they were frozen at -20°C and later transported to University College Hospital, London, where the enzyme immunoassays were carried out according to the manufacturer's instructions.

Of three specimens giving positive results, two were from the general hospital and one from the military hospital. The mean age of the three positive patients was 22, which suggested that, as has been found in other

Table Prevalence of cervical chlamydial infection in unselected pregnant or parturient women in Africa

Country	No studied	No (%) positive
The Gambia ²	87	6 (6.9)
Ghana ³	39	3 (7.7)
Kenya ⁴	938	201 (21.4)
Gabon ⁵	598	59 (9.9)
Nigeria (this study)	46	3 (6.5)

studies, chlamydial infections are more prevalent in younger age groups. In view of the small numbers, however, the difference in age between infected subjects and others did not attain significance.

We conclude that in Nigeria, as in other African countries where studies have been carried out,²⁻⁵ genital infection with *C trachomatis* is prevalent and is likely to cause considerable morbidity among women of childbearing age and their infants.

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TO THE EDITOR, *Genitourinary Medicine***Evidence of low prevalence of antibody to HIV-1 in Northern Ireland**

Sir,

To October 1988, 48 people from Northern Ireland have been reported as having antibody to the human immunodeficiency virus type 1 (HIV-1). The rate of 0.32 per 10 000 of population makes Northern Ireland the region of lowest incidence in the United Kingdom (A Ellam, unpublished observation). Sources of these positive test results from May 1985 to October 1988 were 65 000 blood samples from people tested by the Northern Ireland Blood Transfusion Service, three of which gave positive results. The remaining 45 were detected from 5653 samples tested during the same period by the Regional Virus Laboratory (1105 samples came from the genitourinary medicine clinic and 325 of these were from homosexual or

Correspondence

bisexual men, 16 (5%) of whom had antibody to HIV-1).

To assess further this apparently low prevalence of antibody to HIV-1 in our population, we carried out an anonymous screening survey with the consent of 500 consecutive attenders at the genitourinary medicine clinic in the Royal Victoria Hospital during June 1988. All participants answered a questionnaire about their sexual history and other risk factors for acquiring HIV infection. People who did not wish to have a blood sample taken were asked to answer the questionnaire, but were excluded from analysis. HIV-1 antibody testing was by the Organon-Teknika Vironostika antibody to HTLV III microelisa system. All 500 people (250 men and 250 women) who completed the questionnaire and gave consent to a blood sample being taken had negative results. The mean numbers of sexual partners in the previous year were 3.0 for men and 1.6 for women and the mean numbers of sexual partners in their lifetime were 12.0 for men and 5.3 for women.

The risk factors of the 500 participants are shown in the table. Thirteen (5.2%) of the men admitted to homosexual contact, but only 10 had had anal intercourse in their lifetime. Twenty one (8.4%) of the women had had anal intercourse in their lifetime. Sexual intercourse with people from the USA, Central Africa, or London had been experienced by 82 of the participants in the previous 10 years. For the purposes of this study these had been regarded as areas of potentially high risk for acquiring HIV-1 infection. The low percentage of intravenous drug usage, or sex with an intravenous drug user, was in keeping with the known low prevalence of intravenous drug usage in Northern Ireland.¹

Six men and 21 women also answered the questionnaire but refused to have a blood

sample taken. From the answers to their questionnaires none of them had any recognised high risk factors for acquiring HIV.

The finding that 500 patients attending a sexually transmitted disease clinic did not have antibody to HIV-1 adds further to the evidence that Northern Ireland is a region of low prevalence of antibody to HIV-1. The behaviour of these patients did not appear to put them at particularly high risk, but the two factors that we would highlight were firstly that anal intercourse in women appeared to be relatively common and that future education programmes should highlight the increased risk of acquisition of HIV associated with this sexual practice.² Secondly, sexual contact with those coming from areas of high seroprevalence will inevitably lead to an increased incidence of infection, so strenuous efforts should be made to bring this factor to the attention of the public of Northern Ireland.

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TO THE EDITOR, *Genitourinary Medicine*

Seroprevalence of HIV-I is much higher in young women than men in central Africa

Sir,
Different authors have emphasised the equal incidence of human immunodeficiency virus type I (HIV-I) infection in men and women in Africa because of its heterosexual transmission.¹⁻⁵

In 1986 and 1987, using a cluster sampling method,⁶ we performed two serosurveys in randomised populations aged 15-44 in Bangui, capital of the Central African Republic. Antibodies to HIV-I were detected in sera using western blot (LAV blot, Diagnostic Pasteur). Both serosurveys showed a significantly higher incidence of HIV-I in women

than in men. In 1986, 1.4% (5/354) of men and 5.5% (32/536) of women had antibodies to HIV-I ($p < 0.001$). In 1987, 3.5% (6/173) of men versus 11.4% (24/210) of women had HIV-I antibodies ($p < 0.02$).

Any possible bias due to a difference in age distribution has been eliminated by presenting results for the patients in three age groups (15-24, 25-34, and 35-44). The distribution of the population between these three groups was identical for men and women in both years, and the table gives data on seroprevalence in each sex. Seroprevalence was significantly higher in women than men aged 15-24 ($p < 0.01$). When considering subjects aged 25-44, however, no significant difference between the two sexes was observed, though the incidence was higher in women.

The higher incidence of HIV infection in women, and mainly in young women, might have been due to earlier and greater sexual activity than in men, or because of bias in the selection of the women. To verify this hypothesis we compared the incidence of two other sexually transmitted diseases, syphilis and hepatitis B. Syphilis was diagnosed using the *Treponema pallidum* haemagglutination assay (TPHA, Laboratoire Behring) with a titre of 1/160 considered as the limit of a positive reaction. Hepatitis B was diagnosed by finding hepatitis B surface antigen (HBsAg) by a third generation enzyme linked immunosorbent assay (ELISA, Kit Monolisa Ag HBS, Diagnostic Pasteur). The table shows the results by sex and age. The incidence of HBsAg was higher in men than in women in each age group for the two years. The difference was significant for the totals in 1986, and for the group aged 35-44 in 1987. Similarly, the incidence of syphilis was higher, or at least the same, in men than women in each age group and for the totals in both years, except in the 15-24 age group in 1987. The difference was not significant, however, except in one age group (25-34 in 1987).

These findings need to be extended. The incidence of other STD, such as syphilis and hepatitis B, seems to be higher in men than in women, though the difference is not always significant. At the opposite the incidence of HIV infection is significantly higher in women than in men. This fact reinforces the assumption (so far poorly documented) that men are more likely than women to transmit HIV (Taelman H, *et al*, unpublished observation).⁷

Yours faithfully,
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Table Possible risk factors for acquiring human immunodeficiency virus (HIV) in 500 people attending genitourinary medicine clinic (figures are numbers (percentages) of people with specified risk factor)

Risk factors	Men (n = 250)	Women (n = 250)
History of intravenous drug use	4 (1.6)	2 (0.8)
Sexual contact with intravenous drug user	2 (0.8)	4 (1.6)
Homosexual or bisexual	13 (5.2)	0
Anal intercourse in past 10 years	10 (4)	21 (8.4)
Bisexual contact	0	4 (1.6)
Sexual contact in risk area in past 10 years	52 (20.8)	30 (12)